

## The Department of Mathematics

2020–21–B term

**Course Name** Introduction to computers to Computer science

**Course Number** 361.1.3301

**Course web page**

<https://www.math.bgu.ac.il/en/teaching/spring2021/courses/introduction-to-computers-to-computer-science>

**Office Hours** <https://www.math.bgu.ac.il/en/teaching/hours>

### Abstract

### Requirements and grading<sup>1</sup>

### Course topics

1. Introduction: overall description of the multi-purpose digital computer operation, the central processing unit (CPU) organization, representation and processing of information (data and programs).
2. Machine language: representation of operations and commands, selecting the command set, designing the command architecture, addressing modes.
3. Control Unit: application methods by logic and micro-programming, interpretation and execution of command set.
4. Arithmetic Unit: numbers representation, basic arithmetic operations in digital systems, addition, subtraction, multiplication and division of fix and floating point numbers.
5. Memory Unit: memory types, addressing methods, memory organization, virtual memory, cache memory.

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<sup>1</sup>Information may change during the first two weeks of the term. Please consult the webpage for updates



6. Input/Output Unit: I/O addressing modes, I/O data transferring control by serial polling, interrupt and direct memory access (DMA).